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STUDY FINDINGS

PASCO SANITARY LANDFILL

PURPOSE OF STUDY:

The Environmental Protection Agency (EPA) conducted a field investigation at the Pasco Sanitary Landfill, Pasco, Washington. The investigation focused on sections of the landfill that were previously owned and operated by the Resource Recovery Corporation (RRC). In these sections of the landfill, the RRC received and disposed of industrial waste materials that are now classified as hazardous wastes. The main concern was the past disposal of herbicide wastes and the possibility for those wastes to migrate off-site. The concern was especially important because herbicide wastes are sometimes contaminated with low levels of dioxin, a chemical that is acutely toxic to aquatic life and that may have health implications for humans.

HOW WAS THE STUDY DONE?

EPA took 18 composite soil samples and 15 groundwater samples downgradient of the industrial waste disposal areas where migration was most likely to occur. The soil and groundwater samples were analyzed for EPA's list of hazardous substances, including the herbicides of concern. Field work was completed in the summer of 1985. The attached map shows the the location of the disposal areas and the sampling locations.

WHAT WERE THE STUDY FINDINGS?

From this investigation, EPA found no evidence of herbicide waste migration from the disposal areas. The lack of herbicide migration also means that dioxin contamination is not a problem at this site. Trace amounts of several other chemical compounds were detected outside the disposal areas (see below) however, EPA does not believe that these compounds pose a threat to human health or the environment.

As would be expected in a landfill, several organic and inorganic compounds were detected in the soils and groundwater near the industrial wastes disposal areas. The main route of possible human exposure to the chemicals is through groundwater. The following therefore summarizes EPA findings regarding groundwater in the area.

The groundwater at the landfill was encountered at 40-77 feet below the land surface. It flows in a southwesterly direction. No herbicides were detected in the groundwater.

Several other organic compounds were detected in the groundwater. The most significant levels found were for trichloroethylene and tetrachloroethylene which were found in concentrations above EPA's current drinking water standards. However, this groundwater is not used for drinking. The major

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groundwater use in the region is irrigation. EPA believes that even at these levels, the chemicals detected in groundwater do not pose a problem for irrigation use for two major reasons. First, the irrigation wells are deeper and at least 1600 feet downgradient of the monitoring wells used in this study; thus the organic compounds are likely to be either bound to soils, degraded, or dispersed within the soil before reaching the irrigation wells. Secondly, if these compounds did reach the irrigation wells, they are likely to volatilize during the spraying and then undergo airborne photo- decomposition.

In sum, EPA sees no immediate concerns for public health or the environment at this site. EPA recommends that the Washington Department of Ecology take several steps in managing the facility to prevent future problems (see below).

NEXT STEPS: The site continues to operate as a municipal landfill according to the Department of Ecology regulations. Monitoring of this site is in the jurisdiction of Ecology. Based on study findings, EPA recommends that Ecology consider the following recommendations in the management and oversight of the landfill:

1. Recover with soil all areas where erosion or site activities have exposed plastic liner to preserve liner integrity.

2. Resampling and reanalysis of samples from each of the on-site monitoring wells and several of the surrounding irrigation wells will be necessary in order to explain the variations in the concentrations of inorganic compounds.

3. Continue to monitor groundwater with bi-annual sampling and analysis to detect any on-set of migration from each burial zone.

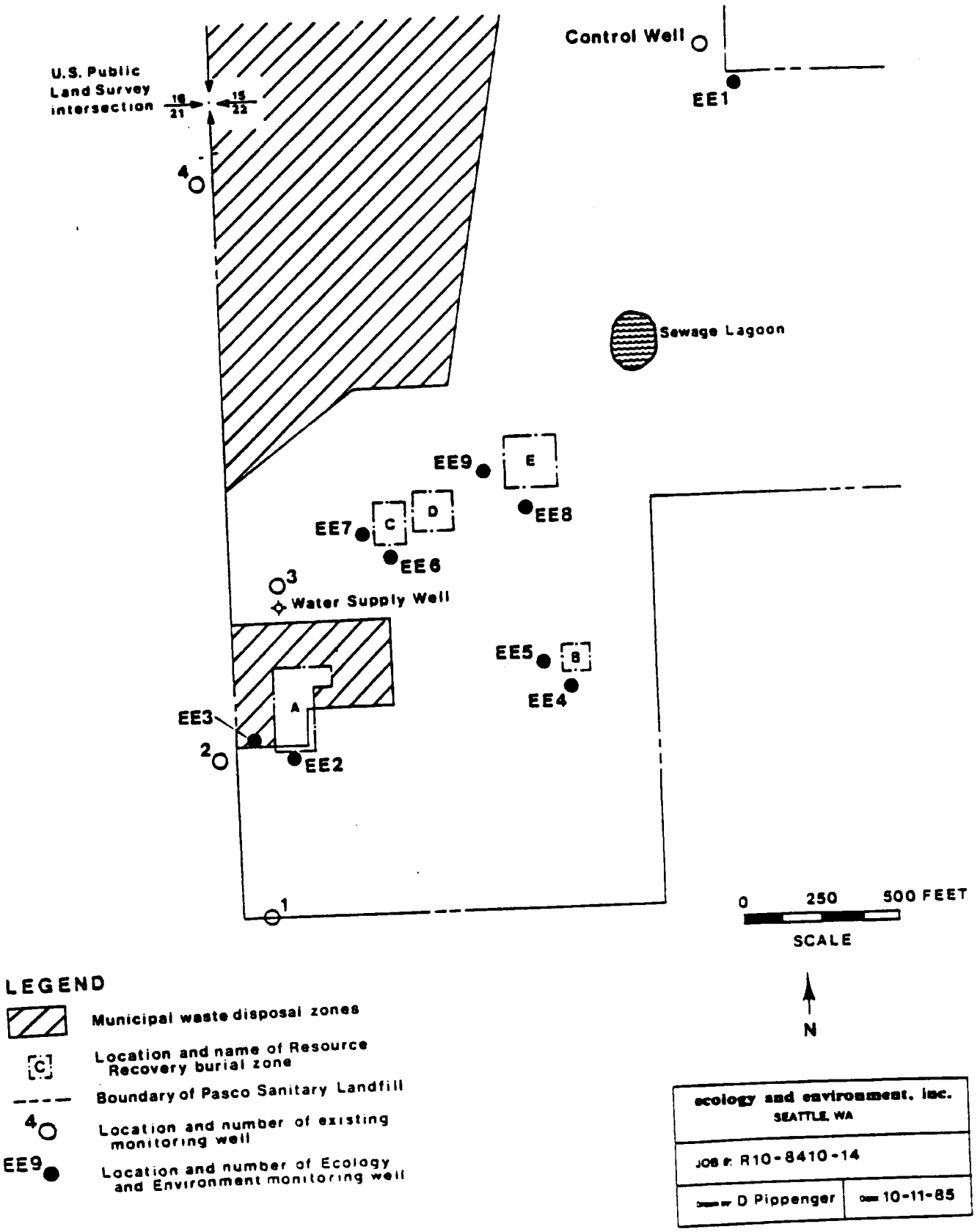
4. If herbicide or herbicide waste materials are detected by future monitoring, the potential for dioxin contamination exists. Migration of the material should then be evaluated.

5. Consider furthur evaluation of the volatile organic compounds detected in the monitoring wells to confirm the hypothesis that these compounds do not pose problems to human health or the environment.

QUESTIONS? Please call the following people for more information:

Lori Cohen, EPA, (206) 442-2712, or

Stan Vendetti, Benton-Franklin County Health District, (509) 943-2614



Monitoring well locations at Resource Recovery site, Pasco, Washington.